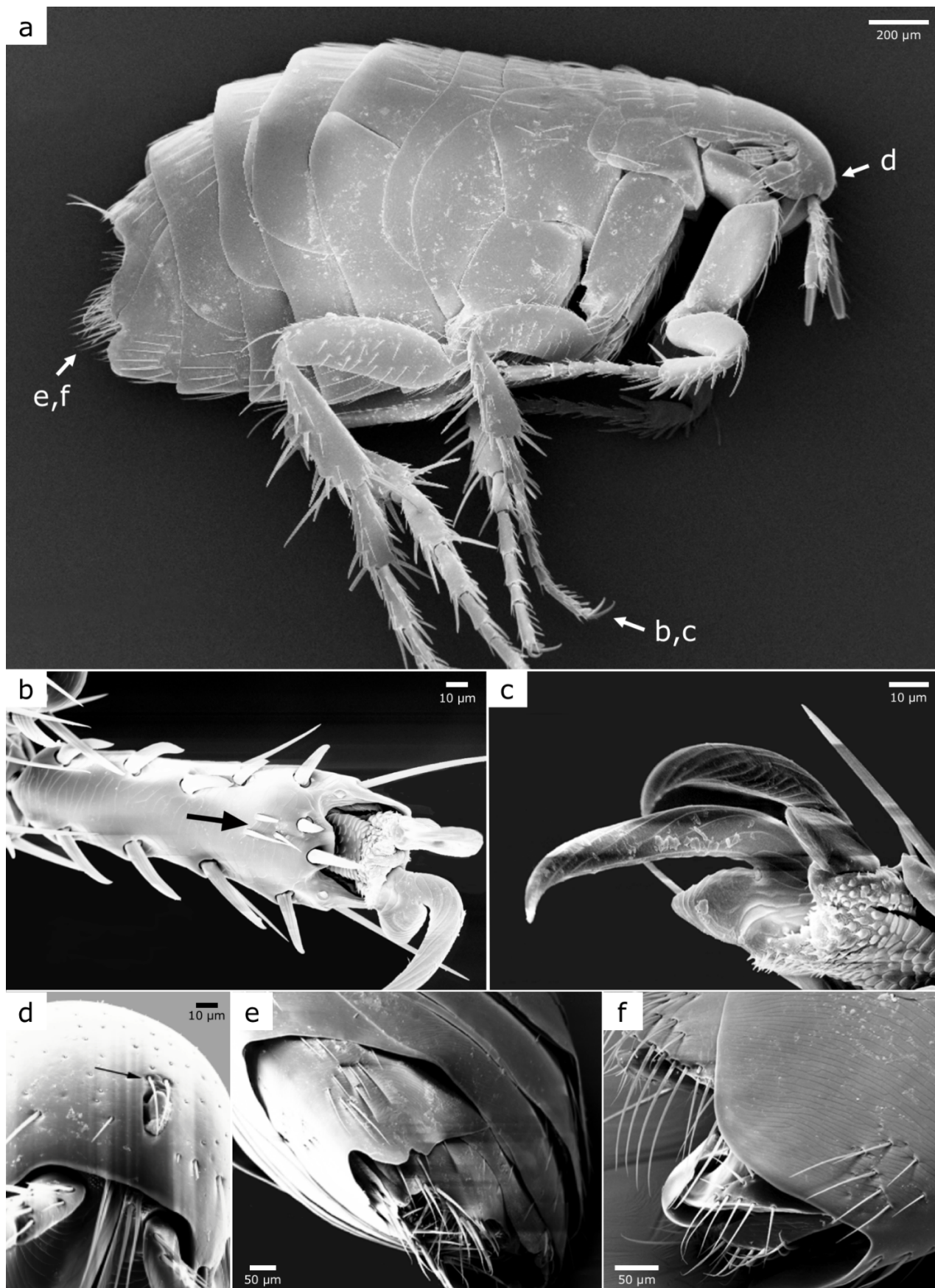
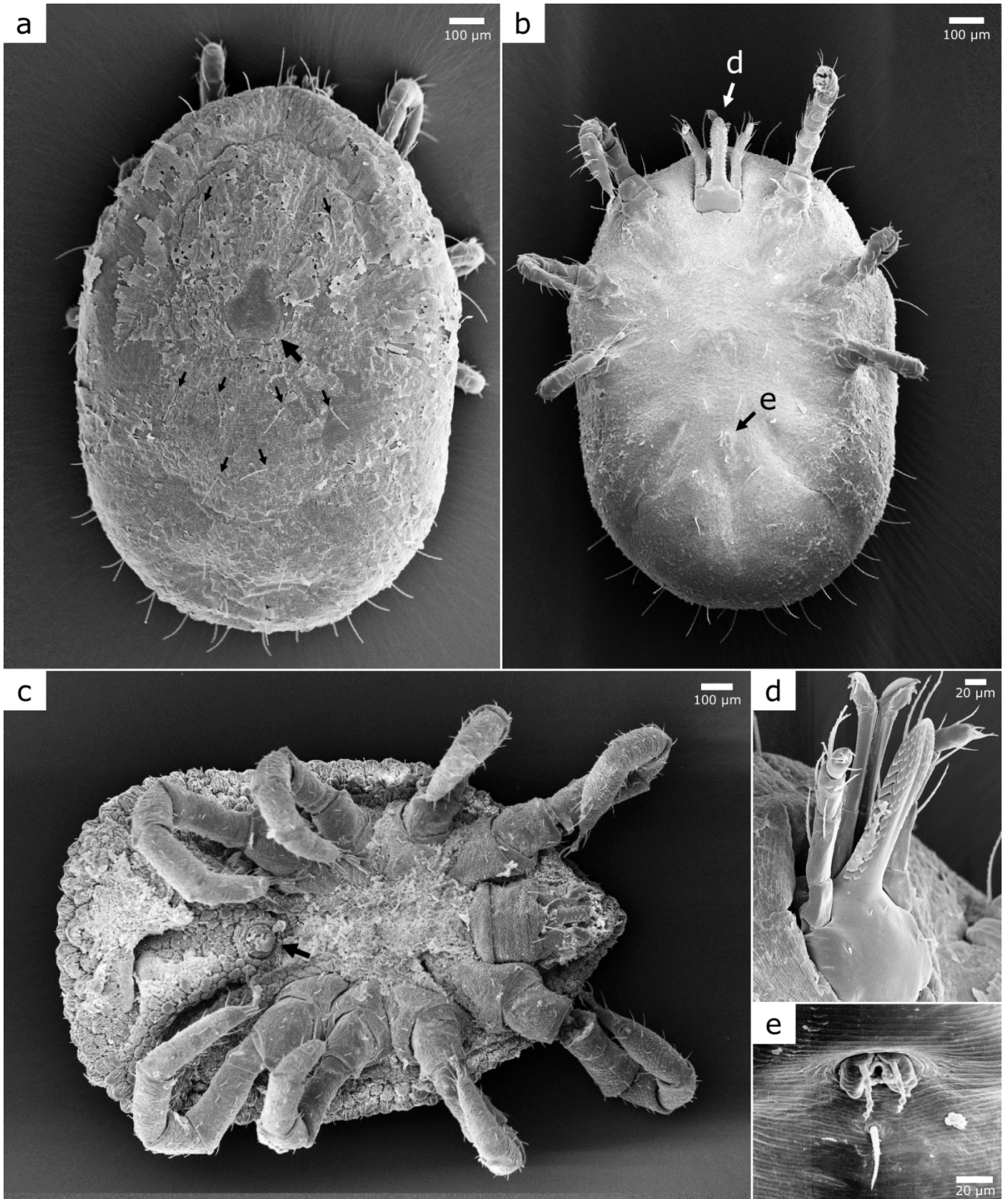


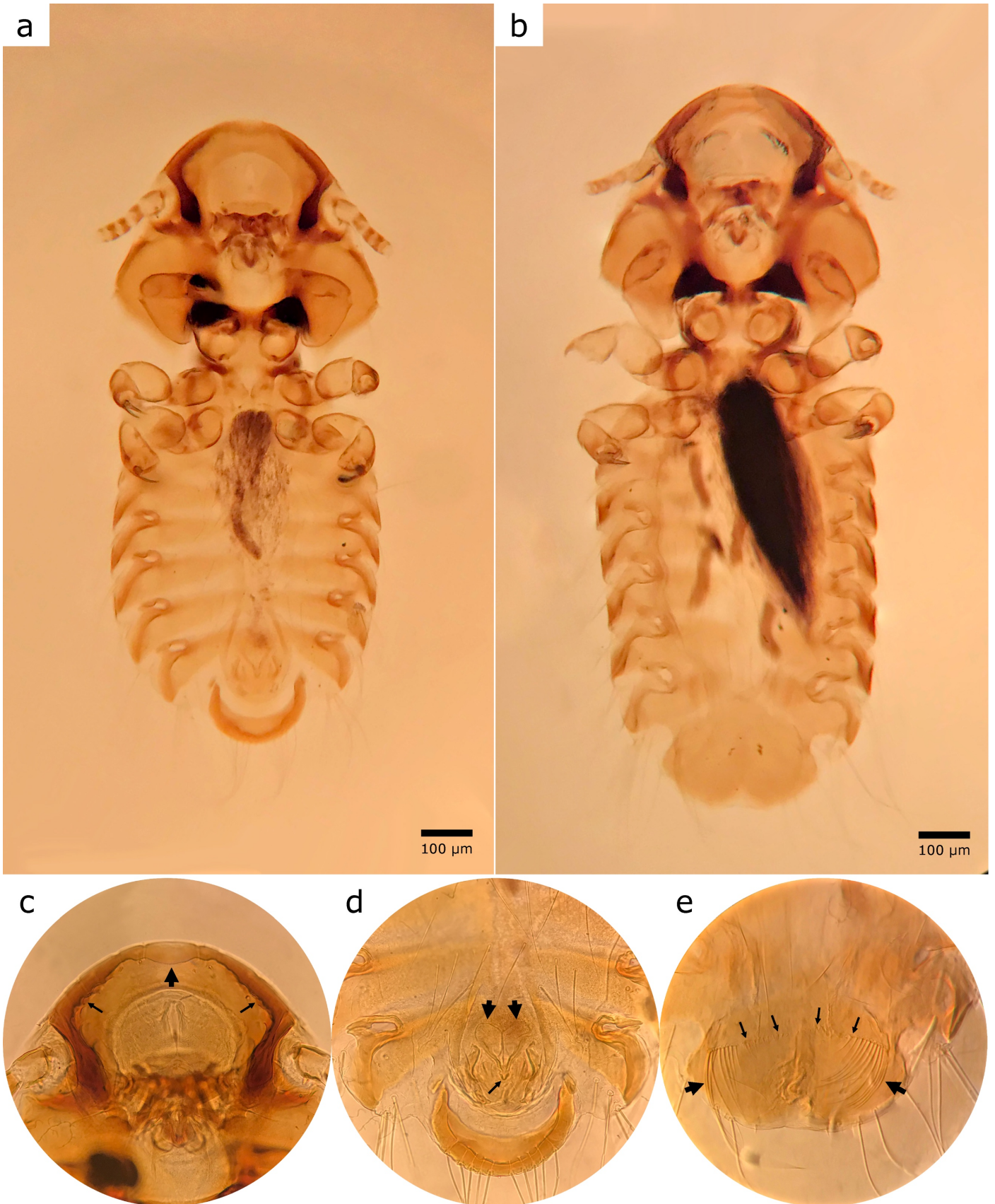
Supplemental File S1. Detailed photographs of external parasites recovered from African penguins (*Spheniscus demersus*).



***Parapsyllus longicornis humboldti*.** Legend: (a) lateral full-body view of an adult female; (b) presence of three stout ventral apical bristles (arrow) on the tarsal segment V of the midleg of the male; (c) manubrium of the claws of the female; (d) frontal tubercle with two overhanging setae (arrow); (e) sinus of abdominal sternum VII (female); (f) male end with phallosome.



Ornithodoros capensis. Legend: (a) dorsal full-body view of a larva, showing the dorsal plate (thick arrow) with a pyriform shape and a breadth/length ratio of 0.7, and the presence of long and laterally fringed body setae with 4 dorsocentral pairs (small arrows; length $76.5 \pm 9.0 \mu\text{m}$) in addition to 6-7 anteroexternal pairs (length $95 - 120 \mu\text{m}$) and 5 posteroexternal pairs ($91 - 107 \mu\text{m}$); (b) ventral full-body view of a larva; (c) ventral full-body view of an adult, with four pairs of legs and ventral anal porus (arrow); (d) capitulum of the larva, showing hypostome with a blunt apex and 6-7 well-developed apical teeth; (e) anal valves of the larva, with setae.



Austrogoniodes demersus. Legend: (a) ventral full-body view of an adult male; (b) ventral full-body view of an adult female; (c) ventral view of the male head, showing the characteristic shape of the pre-antennal region (thin arrows) and marginal carina (thick arrow); (d) male genitalia, showing the pointed shape of the distal penis (thin arrow) and two medianly-fused bladder-like lobes anterior to penis (thick arrows); (e) female genitalia, showing the concave vulval margin (thin arrows) and numerous long curved lateral setae (thick arrows).